STICS entry – PCB Exposure Estimation Tool (6/17/19-LJP)

Impact/Purpose Statement

EPA is planning to conduct an external peer review of the PCB Exposure Estimation Tool which was used to develop Exposure Levels for Evaluating (ELE) PCBs in indoor school air. The ELEs are intended to represent health-protective benchmarks that can be used to compare and evaluate measured levels of PCBs in indoor school air. The PCB Exposure Estimation Tool was recently updated using a systematic approach to the review of the scientific literature.

Abstract

The PCB Exposure Estimation Tool was developed in 2009 (Version 1.1) to help exposure/risk assessors estimate total PCB exposures. It was updated in 2010 (Version 1.2) to include revised dietary dose levels provided by the U.S. Food and Drug Administration (FDA). The PCB Exposure Estimation Tool was recently updated again (Version 2.0) using a systematic approach to the review of the scientific literature on media concentrations of PCBs. The Tool provides exposure estimates for school children (daycare, pre-school, elementary, middle and high school) and school staff including teachers and other school personnel. Total PCB exposures are estimated as the sum of exposures occurring in non-school (background) and school settings. Non-school exposure pathways include indoor and outdoor air, indoor dust, outside soils and total diet. School exposure pathways include school indoor and outdoor air, indoor dust, and nearby outside soils. The Tool has also been used to calculate the maximum PCB concentration in indoor school to which individuals could be exposed without exceeding the reference dose (RfD) for PCB Aroclor 1254 (the more conservative of the two RfDs available for PCB Aroclors) when all other school and non-school PCB exposure pathways are set to average background levels. These school indoor air PCB concentrations (from Version 1.2 of the Tool), rounded to one significant figure, have been used as ELEs for PCBs in indoor school air. According to EPA's website (https://www.epa.gov/pcbs/exposure-levels-evaluating-polychlorinated-biphenyls-pcbs-indoor-school-air), "The ELEs were derived to serve as health protective values intended for evaluation purposes. They should not be interpreted nor applied as "bright line" or "not-to-exceed" criteria, but may be used to guide thoughtful evaluation of indoor air quality in schools."